CLAIM LISTING (CLEAN VERSION)

1. (Original) A video encoding method for providing control of an anti-copy protection mechanism for a video program, the video encoding method comprising an act of encoding at least one anti-copy protection code within closed captioning (CC) bandwidth of said video program.

2. (Original) A video encoding method as recited in claim 1, said video encoding method further comprising the act of providing said video program.

3. (Original) A video encoding method as recited in claim 2, wherein the act of providing said video program includes the act of authoring content of said video program such that the anti-copy protection encoding can be performed in conjunction with said authoring of content of said video program.

4. (Original) A video encoding method as recited in claim 2, wherein in the act of providing said video program includes the act of receiving the video program as previously authored video content.

5. (Original) A video encoding method as recited in claim 1, wherein said anti-copy protection mechanism is activated at least when a frequency of anti-protection encoding within said video program is greater than or equal to a predefined activation frequency, wherein the act of encoding at least one anti-copy protection code within the closed captioning bandwidth of said video program includes the acts of: determining certain portions of said video program which require anti-copy protection; generating anti-copy protection codes; and inserting anti-copy protection codes within CC bandwidth of said certain portions of said video program at a frequency greater than or equal to said predefined activation frequency.

6. (Original) A video encoding method as recited in claim 5, wherein said anti-copy protection mechanism provides for multiple levels of anti-copy protection.

7. (Original) A video encoding method as recited in claim 6, wherein said multiple levels of

anti-copy protection include a first level degrading subsequent copies of said video program

8. (Original) A video encoding method as recited in claim 6, wherein said multiple levels of anti-copy protection include a severe level barring generation of subsequent copies of said video program.

9. (Original) A video encoding method as recited in claim 6, wherein said multiple levels of anti-copy protection to insertion frequency ranges of said anti-copy protection codes.

10. (Original) A video encoding method as recited in claim 2, said video encoding method further comprising the act of generating CC data suitable for encoding in said video program.

11. (Original) A video encoding method as recited in claim 10, wherein said CC data is encoded into said video program prior to encoding said at least one anti-copy protection code prior.

12. (Original) A video encoding method as recited in claim 11, wherein said anti-copy protection codes are inserted into said video program without analyzing said video program to determine whether CC data is encoded therein.

13. (Original) A video encoding method as recited in claim 12, wherein said anti-copy protection codes are inserted into least used portions of said CC bandwidth.

14. (Original) A video encoding method as recited in claim 11, further including the act of analyzing said CC bandwidth of said video program to enable the encoding of said anti-copy protection codes within unused portions of said CC bandwidth.

15. (Original) A video encoding method as recited in claim 1, wherein said anti-copy protection mechanism provides for multiple levels of anti-copy protection.

16. (Original) A video encoding method as recited in claim 15, wherein said multiple levels of anti-copy protection include a first level degrading subsequent copies of said video program

17. (Original) A video encoding method as recited in claim 15, wherein said multiple levels of anti-copy protection include a severe level barring generation of subsequent copies of said video program.

18. (Original) A video encoding method as recited in claim 15, wherein each of said multiple levels of anti-copy protection mechanism has a corresponding anti-copy protection code.

19. (Original) A video encoding method as recited in claim 16, further including the acts of: determining certain portions of said video program which require anti-copy protection; determining a desired level of anti-copy protection for each of said certain portions of said video program; generating any required anti-copy protection codes; and inserting anti-copy protection codes within said certain portions of said video program as indicated by the desired level of anti-copy protection.

20. (Original) A video encoding method as recited in claim 1, wherein said anti-copy protection mechanism is activated at least when a frequency of anti-protection encoding within said video program is less than or equal to a predefined frequency, wherein the act of encoding at least one anti-copy protection code within the closed captioning bandwidth of said video program includes the acts of: determining certain portions of said video program which do not require anti-copy protection; generating anti-copy protection codes; and inserting anti-copy protection codes within CC bandwidth of said certain portions of said video program which do not require anti-copy protection at a frequency greater than or equal to said predefined frequency.

21. (Original) A video encoding method as recited in claim 1, wherein the video program is an analog video program.

22. (Original) A video encoding method as recited in claim 1, wherein the CC bandwidth utilized is line 21 of the vertical blanking interval (VBI).

23. (Withdrawn) A computer readable medium encoded with a video encoding method for

providing control of an anti-copy protection mechanism for a video program, the computer readable medium comprising a computer executable instruction for encoding at least one anti-copy protection code within closed captioning (CC) bandwidth of said video program.

24. (Withdrawn) A video program comprising at least one anti-copy protection code encoded within a portion of said video program intended for use in providing closed caption (CC) data, said at least one anti-copy protection code operable to control an anti-copy protection mechanism implemented on a video device.

25. (Withdrawn) A video program as recited in claim 24, wherein said video program is an analog video program supporting CC encoding.

26. (Withdrawn) A video program as recited in claim 25, wherein said CC encoding adheres to an EIA-608 standard and said at least one anti-copy protection code is a multiple byte character code inserted into a line 21 of a vertical blanking interval (VBI) of said analog video program.

27. (Withdrawn) A video program as recited in claim 26, wherein said multiple byte character is a previously unused 2-byte character code.

28. (Withdrawn) A video program as recited in claim 27, wherein said 2-byte character code is the character code (1F, 60).

29. (Withdrawn) A video program as recited in claim 27, wherein said 2-byte character code is the character code (1F, 61).

30. (Withdrawn) A video program as recited in claim 24, wherein said anti-copy protection mechanism is responsive to a frequency of insertion of said anti-copy protection codes, certain portions of said video program being encoded with anti-copy protection codes such at a frequency of insertion such that said anti-copy protection mechanism is controlled as desired.

31. (Withdrawn) A video program as recited in claim 30, wherein activation of said anti-copy

protection mechanism is initiated when said frequency of insertion of said anti-copy protection codes is greater than or equal to an anti-copy protection initiation frequency.

32. (Withdrawn) A video program as recited in claim 31, wherein said anti-copy protection mechanism is maintained in an on state when said frequency of insertion of said anti-copy protection codes is greater than or equal to an anti-copy protection maintenance frequency, wherein said anti-copy protection maintenance frequency may be less than said anti-copy protection initiation frequency.

33. (Withdrawn) A video program as recited in claim 30, wherein activation of said anti-copy protection mechanism is initiated when said frequency of insertion of said anti-copy protection codes is less than or equal to an anti-copy protection initiation frequency.

34. (Withdrawn) A video program as recited in claim 30, wherein said anti-copy protection mechanism provides multiple levels of anti-copy protection.

35. (Withdrawn) A video program as recited in claim 34, wherein each of said multiple levels of anti-copy protection has a corresponding anti-copy protection code.

36. (Withdrawn) A video program as recited in claim 34, wherein each of said multiple levels of anti-copy protection correspond to a range of anti-copy protection code insertion frequencies.

37. (Withdrawn) A video program as recited in claim 24, wherein said anti-copy protection mechanism provides multiple levels of anti-copy protection.

38. (Withdrawn) A video program as recited in claim 37, wherein each of said multiple levels of anti-copy protection has a corresponding anti-copy protection code.

39. (Withdrawn) A video program as recited in claim 24, wherein said video program is a digital video program.

40. (Withdrawn) A data carrier wave such as a video signal, said data carrier wave comprising at least one anti-copy protection code encoded within a portion of said data carrier wave intended for use in providing closed caption (CC) data, said at least one anti-copy protection code operable to control an anti-copy protection mechanism implemented on a video device.

41. (Withdrawn) A data carrier wave as recited in claim 40, wherein said data carrier wave is an analog data carrier wave supporting CC encoding.

42. (Withdrawn) A data carrier wave as recited in claim 41, wherein said CC encoding adheres to an EIA-608 standard and said at least one anti-copy protection code is a multiple byte character code inserted into a line 21 of a vertical blanking interval (VBI) of said analog data carrier wave.

43. (Withdrawn) A data carrier wave as recited in claim 42, wherein said multiple byte character is a previously unused 2-byte character code.

44. (Withdrawn) A data carrier wave as recited in claim 43, wherein said 2-byte character code is the character code (1F, 60).

45. (Withdrawn) A data carrier wave as recited in claim 43, wherein said 2-byte character code is the character code (1F, 61).

46. (Withdrawn) A data carrier wave as recited in claim 40, wherein said anti-copy protection mechanism is responsive to a frequency of insertion of said anti-copy protection codes, certain portions of said data carrier wave being encoded with anti-copy protection codes such at a frequency of insertion such that said anti-copy protection mechanism is controlled as desired.

47. (Withdrawn) A data carrier wave as recited in claim 46, wherein activation of said anti-copy protection mechanism is initiated when said frequency of insertion of said anti-copy protection codes is greater than or equal to an anti-copy protection initiation frequency.

48. (Withdrawn) A data carrier wave as recited in claim 47, wherein said anti-copy protection mechanism is maintained in an on state when said frequency of insertion of said anti-copy protection codes is greater than or equal to an anti-copy protection maintenance frequency, wherein said anti-copy protection maintenance frequency may be less than said anti-copy protection initiation frequency.

49. (Withdrawn) A data carrier wave as recited in claim 46, wherein activation of said anti-copy protection mechanism is initiated when said frequency of insertion of said anti-copy protection codes is less than or equal to an anti-copy protection initiation frequency.

50. (Withdrawn) A data carrier wave as recited in claim 46, wherein said anti-copy protection mechanism provides multiple levels of anti-copy protection.

51. (Withdrawn) A data carrier wave as recited in claim 50, wherein each of said multiple levels of anti-copy protection has a corresponding anti-copy protection code.

52. (Withdrawn) A data carrier wave as recited in claim 50, wherein each of said multiple levels of anti-copy protection correspond to a range of anti-copy protection code insertion frequencies.

53. (Withdrawn) A data carrier wave as recited in claim 40, wherein said anti-copy protection mechanism provides multiple levels of anti-copy protection.

54. (Withdrawn) A data carrier wave as recited in claim 53, wherein each of said multiple levels of anti-copy protection has a corresponding anti-copy protection code.

55. (Withdrawn) A data carrier wave as recited in claim 40, wherein said data carrier wave is a digital data carrier wave.

56. (Withdrawn) An anti-copy protection video program encoding system, said encoding system operable to insert anti-copy protection codes within closed captioning bandwidth of a video program.

57. (Withdrawn) An anti-copy protection video program encoding system as recited in claim 56, said encoding system comprising: a data merger device having a first CC data input, an anti-copy data input, and a CC data output, said data merger device operable to merge data received at said anti-copy data input and said specific CC data output; and a CC encoder having a second CC data input coupled to said data merger device CC data output, a video data input, and a video data output, said closed caption encoder operable to encode data received at said second CC data input within a CC bandwidth portion of a video program received at said video input.

58. (Withdrawn) An anti-copy protection video program encoding system as recited in claim 56, wherein said encoding system is responsive to an analog video program.

59. (Withdrawn) An anti-copy protection video program encoding system as recited in claim 56, wherein said encoding system is responsive to a digital video program.

60. (Withdrawn) An anti-copy protection video program encoding system as recited in claim 57, wherein said encoding system inserts anti-copy protection codes within line 21 of the vertical blanking interval (VBI) of the video program.

61. (Withdrawn) An anti-copy protection video program encoding system as recited in claim 56, wherein an anti-copy protection mechanism is activated at least when a frequency of anti-protection encoding within said video program is greater than or equal to a predefined activation frequency, wherein the encoding system is further operable to: determine certain portions of said video program which require anti-copy protection; generate anti-copy protection codes; and insert anti-copy protection codes within CC bandwidth of said certain portions of said video program at a frequency greater than or equal to said predefined activation frequency.

62. (Withdrawn) A video encoding system as recited in claim 61, wherein said anti-copy protection mechanism provides for multiple levels of anti-copy protection.

63. (Withdrawn) A video encoding system as recited in claim 62, wherein said multiple levels of

anti-copy protection include a first level degrading subsequent copies of said video program

64. (Withdrawn) A video encoding system as recited in claim 62, wherein said multiple levels of anti-copy protection include a severe level barring generation of subsequent copies of said video program.

65. (Withdrawn) A video encoding system as recited in claim 63, wherein said multiple levels of anti-copy protection correspond to frequency ranges of said anti-copy protection codes.

66. (Withdrawn) A video encoding system as recited in claim 56, said encoding system comprising: a CC encoder having a CC data input, a video data input, and a video data output, said closed caption encoder operable to encode data received at said CC data input within a CC bandwidth portion of a video program received at said video data input, and further to output an CC encoded video program at said video output; and an anti-copy protection encoder having a CC encoded video program input, an anti-copy protection code input, and an anti-copy protection encoded video output, said anti-copy protection encoder operable to encode anti-copy protection codes received at said anti-copy protection code input within a video program received at said CC encoded video program input.

67. (Withdrawn) A video encoding system as recited in claim 66, said anti-copy protection encoder operable to insert said anti-copy protection codes said video program without analyzing said video program to determine whether CC data is encoded therein.

68. (Withdrawn) A video encoding system as recited in claim 67, wherein said anti-copy protection codes are inserted into least used portions of said CC bandwidth.

69. (Withdrawn) A video encoding system as recited in claim 66, said anti-copy protection encoder operable to analyze said CC bandwidth of said video program to enable the encoding of said anti-copy protection codes within unused portions of said CC bandwidth.

70. (Withdrawn) A video encoding system as recited in claim 56, wherein said anti-copy

protection mechanism provides for multiple levels of anti-copy protection.

71. (Withdrawn) A video encoding system as recited in claim 70, wherein said multiple levels of anti-copy protection include a first level degrading subsequent copies of said video program

72. (Withdrawn) A video encoding system as recited in claim 70, wherein said multiple levels of anti-copy protection include a severe level barring generation of subsequent copies of said video program.

73. (Withdrawn) A video encoding system as recited in claim 15, wherein each of said multiple levels of anti-copy protection mechanism has a corresponding anti-copy protection code.

74. (Withdrawn) A video encoding system as recited in claim 70, said anti-copy protection encoder operable for: determining certain portions of said video program which require anti-copy protection; determining a desired level of anti-copy protection for each of said certain portions of said video program; generating any required anti-copy protection codes; and inserting anti-copy protection codes within said certain portions of said video program as indicated by the desired level of anti-copy protection.

75. (Withdrawn) A video encoding system as recited in claim 56, wherein an anti-copy protection mechanism is activated at least when a frequency of anti-protection encoding within said video program is less than or equal to a predefined frequency, wherein the encoding system is operable for: determining certain portions of said video program which do not require anti-copy protection; generating anti-copy protection codes; and inserting anti-copy protection codes within CC bandwidth of said certain portions of said video program which do not require anti-copy protection at a frequency greater than or equal to said predefined frequency.

76. (Withdrawn) An anti-copy protection method for providing control of an anti-copy protection mechanism for a video program, the anti-copy protection method comprising the acts of: receiving a video program; analyzing a CC portion of said video program for anti-copy protection codes.

77. (Withdrawn) An anti-copy protection method as recited in claim 76 further comprising an act of controlling said anti-copy protection mechanism as indicated by said anti-copy protection codes.

78. (Withdrawn) An anti-copy protection method as recited in claim 77, wherein said anti-copy protection mechanism is activated at least when a frequency of anti-protection encoding within said video program is greater than or equal to a predefined activation frequency, wherein the act of analyzing the anti-copy protection codes within the CC portion of said video program includes the act of determining the frequency of anti-protection encoding within said video program.

79. (Withdrawn) An anti-copy protection method as recited in claim 76, wherein said anti-copy protection mechanism provides for multiple levels of anti-copy protection, said anti-copy protection method further including the act of determining from said anti-copy protection codes an indicated level of anti-copy protection.

80. (Withdrawn) An anti-copy protection method as recited in claim 79, wherein said multiple levels of anti-copy protection correspond to insertion frequency ranges of said anti-copy protection codes.

81. (Withdrawn) An anti-copy protection method as recited in claim 79, wherein said multiple levels of anti-copy protection correspond to specific anti-copy protection codes.

82. (Withdrawn) An anti-copy protection method as recited in claim 79 wherein said multiple levels of anti-copy protection include a first level degrading subsequent copies of said video program

83. (Withdrawn) An anti-copy protection method as recited in claim 79, wherein said multiple levels of anti-copy protection include a severe level barring generation of subsequent copies of said video program

84. (Withdrawn) A method for anti-copy protection in an video program comprising: encoding a video program with a two byte character code in a vertical blanking interval of a video field such that said two byte character code may be decoded in a video recording device in order to disable a recording process of said video program; and disabling said recording process in response to a content of said two byte character code.

85. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said video program is encoded prior to recording on a DVD.

86. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said video program is encoded prior to broadcast via a satellite system.

87. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said video program is encoded prior to transmission over a cable network.

88. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said video program is encoded prior to broadcast via modulated radio frequency transmission.

89. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said video program is encoded prior to distribution over a digital network system.

90. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said video recording device comprises a video tape recorder.

91. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said video recording device comprises a digital storage device.

92. (Withdrawn) A method for copy-protecting a video program as recited in claim 91, wherein said digital storage device comprises an MPEG recorder.

93. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein

said content of said two byte character code is indicative of a maximum number of allowed recordings of said video program.

94. (Withdrawn) A method for copy-protecting a video program as recited in claim 84 further comprising: storing a reference two byte code in a video recording device; comparing said reference two byte character code with said two byte character code; and disabling said recording process based on a comparison of said two byte character code and said reference two byte character code.

95. (Withdrawn) A method for recording a copy-protected video program with a video recording device comprising: decoding a two byte character code in a vertical blanking interval of a video field; and enabling recording of said video program in response to said two byte character code.

96. (Withdrawn) The method of claim 95 including recording said video program with said video ecording device.

97. (Withdrawn) The method of claim 96, wherein said two byte character code has a value, indicative of the number of times said video program may be played back from said video recording device based on said value of said two byte character code.

98. (Withdrawn) A method as recited in claim 95, wherein said video program is encoded prior to broadcast via a satellite system.

99. (Withdrawn) A method as recited in claim 95, wherein said video program is encoded prior to transmission over a cable network.

100. (Withdrawn) A method as recited in claim 95, wherein said video program is encoded prior to distribution over a digital network system.

101. (Withdrawn) A method as recited in claim 96, wherein said video recording device comprises a digital storage device.

102. (Withdrawn) A method as recited in claim 101, wherein said digital storage device comprises a set top box.

103. (Withdrawn) A method as recited in claim 101, wherein said digital storage device comprises a computer system.

104. (Withdrawn) The method as recited in claim 96 further comprising: storing a reference two byte code in a video recording device; comparing said reference two byte character code with said two byte character code; and determining the number of times said video program may be played back from said video recording device based on a comparison of said two byte character code and said reference two byte character code.

105. (Withdrawn) An apparatus for preventing the recording of copy protected video programs comprising: a decoding device for decoding closed caption character codes in a video program; a memory operative for storing a reference code; a comparator for comparing said reference code with said closed caption character codes in order to produce an output responsive to said reference code and said closed caption character codes; and a control device operative to prevent recording of said video program in response to said output of said comparator.

106. (Withdrawn) The apparatus of claim 105, including a recording device for producing a recording of said video program.

107. (Withdrawn) An apparatus to prevent the recording of copy protected video programs as recited in claim 106 wherein said recording device is a video tape recorder.

108. (Withdrawn) An apparatus to prevent the recording of copy protected video programs as recited in claim 106 wherein said recording device is a digital storage device.

109. (Withdrawn) An apparatus to prevent the recording of copy protected video programs as recited in claim 108 wherein said digital storage device is a MPEG recorder.

110. (Withdrawn) An apparatus to prevent the recording of copy protected video programs as recited in claim 108 wherein said digital storage device is a computer system.

111. (Withdrawn) An apparatus to prevent the recording of copy protected video programs as recited in claim 106 wherein said control device allows the formation of at least one recording of said video program by said recording device based on said output of said comparator.

112. An apparatus to prevent the recording of copy protected video programs as recited in claim 106 further comprising: a playback device for playback of said recorded video program, and wherein said control device limits the number of times said recorded video program may be played back based on the output of said comparator.

113. (Withdrawn) The apparatus as recited in claim 105, wherein said closed caption character code includes a two byte character code in a vertical blanking interval of a video field of said video program, and wherein said reference code includes a reference two byte character code.

114. (Withdrawn) The apparatus of claim 106, wherein said comparator provides at least one output signal in response to said closed caption character code being equal to said reference code, and wherein said control device is operative to disable said recording device for a predetermined time interval in response to said output signal, said control device being further operative to extend said predetermined time interval in response to one or more additional said output signals.

115. (Withdrawn) The apparatus of claim 105, wherein said comparator compares said reference code with said closed caption character code at a regular time interval, and wherein said comparator provides at least one output signal in response to said closed caption character code being equal to said reference code.

116. (Withdrawn) The apparatus of claim 115, wherein said control device is operative to disable said recording device for a predetermined time interval in response to said output signal, said control device being further operative to extend said predetermined time interval in response

to one or more additional said output signals.

117. (Withdrawn) The apparatus of claim 105, wherein a closed caption character string is partially comprised of said closed caption character code, and wherein said comparator is operative to determine the location of said closed caption character code within said closed caption character string.

118. (Withdrawn) A video transmission receiver for receiving copy protected video programs, comprising: a decoding device for decoding copy protection codes incorporated in a video program; a memory operative for storing a reference code; a comparator for comparing said reference code with said copy protection codes in order to produce an output responsive to said reference code and said copy protection codes; a control device operative to limit recording and playback of said video program in response to said output of said comparator; and a recording device for recording and playback of said video program.

119. (Withdrawn) A video transmitter for creating copy protected video programs, comprising an encoding device for placing a two byte character code in a vertical blanking interval of a video field.

120. (Withdrawn) The video transmitter of claim 119, wherein said two byte character code is encoded as field 1, text position 2 and field 2 text position 3.

121. (Withdrawn) The video transmitter of claim 119, further comprising a DVD recorder.

122. (Withdrawn) The video transmitter of claim 119, further comprising a satellite system.

123. (Withdrawn) The video transmitter of claim 119, further comprising a cable network.

124. (Withdrawn) The video transmitter of claim 119, further comprising a modulated radio frequency transmitter.

125. (Withdrawn) The video transmitter of claim 119, further comprising a digital network.

126. (Withdrawn) The video transmitter of claim 119, further comprising a video recorder.

127. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said two byte character code is encoded as field 1, text position 2 and field 2 text position 3.

128. (Withdrawn) A method for copy-protecting a video program as recited in claim 84, wherein said video program is encoded prior to recording on a video tape.